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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/782,316

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Thomas J. Endres

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EXAMINER

MATIN, NURUL M

ART UNIT

PAPER NUMBER

2611

MAIL DATE

DELIVERY MODE

12/27/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/782,316

**Applicant(s)**

ENDRES ET AL.

**Examiner**

Nurul M. Matin

**Art Unit**

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2007.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1 and 3 is/are rejected.  
7) ☒ Claim(s) 2 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 6/23/2006.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. This office action is in response to communications filed on October 3rd, 2007.

Claims 2-3 are added and claims 1-3 are pending in this application.

2. Applicant's arguments filed on October 3rd, 2007 have been fully considered but they are not persuasive.

### ***Response to Arguments***

3. Applicant's arguments filed on 10/03/2007 have been fully considered but they are not persuasive. The Examiner has thoroughly reviewed Applicant's arguments but firmly believes that the cited reference reasonably and properly meet the claimed limitation as rejected.

Applicant's arguments - The Applicants argued that Knutson and Sugawara fail to disclose or suggest " using said control signal to jointly determine operation of said timing recovery module, said carrier recovery module, said automatic gain control module, and said equalization module.

Examiner response – Applicant admitted that the Office Action stated Knutson discloses control signals where they mention a controller 250 to jointly determine operation of said timing recovery module, said carrier recovery module, said automatic gain control module, and said equalization module ( see office action, pg. 2). Therefore,

this is same thing as saying jointly controlling operation of the timing recovery module, carrier recovery module, automatic gain control module, and equalization module.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1 rejected under 35 U.S.C. 103(a) as being unpatentable over Knutson et al, US 6563862 in view of Sugawara et al, US 2006/0181797.

Re claim 1, Knutson discloses in a wireless communications receiver having a timing recovery module, carrier recovery module, automatic gain control module, and equalization module (col. 2, line 35-42), said communications receiver responsive to a received signal to form soft decision samples corresponding to said received signal and hard decision samples corresponding to said received signal, a method for jointly operating said timing recovery module, said carrier recovery module, said automatic gain control module, and said equalization module, said method comprising(col.2, line 35-42): using said control signals(col.6, line 19-21, where they mention a controller 250) to jointly determine operation of said timing recovery module, said carrier recovery module, said automatic gain control module, and said equalization module(col.2, line 31-36, "these functions can include : timing recovery for symbol synchronization, carrier

recovery (frequency demodulation), and equalization. The receiver includes automatic gain control (AGC) and equalizer loops for each link). But he fails to teach explicitly about deriving control signals from said soft and hard decision samples. However, Sugawara does (fig.1, page 1, Para [0006], line 25-28, where gain controller (12120 is a control signal and FIR filter (1206) and Viterbi decoder (1208) are the soft and hard decision samples. Therefore, taking the combined teaching of Knutson and Sugawara as a whole, it would have been obvious to one of ordinary skill in the art to incorporate the arrangement of deriving control signals from said soft and hard decision samples as thought in Sugawara into Knutson to eliminate the gain error AG.

3. Claim 3 rejected under 35 U.S.C. 103(a) as being unpatentable over Knutson et al, US 6563862, Sugawara et al, US 2006/0181797 in view of Ben-Efraim et al, US 5995563.

Re claim 3, Knutson and Sugawara fail to teach the received signal comprises data, the method further comprising: adjusting a sampling phase and frequency of the data. However, Ben-Efraim does teach adjusting a sampling phase and frequency of the data (col.3, line 34-39, "Loop filter 232 operates to regulate the sampling phase and frequency of ADC 220.

Therefore, taking the combined teaching of Knutson, Sugawara and Ben-Efraim as a whole, it would have been obvious to one of ordinary skill in the art to incorporate the arrangement of adjusting a sampling phase and frequency of the data as thought in

Ben-Efraim into Knutson and Sugawara to determine an estimate of error conditions present in the signal.

***Allowable Subject Matter***

4. Claim 2 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nurul M. Matin whose telephone number is 571-270-1188. The examiner can normally be reached on mon-fri (7:30-5:00).


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nurul Matin  
Examiner.

  
**MOHAMMED GHAYOUR**  
**SUPERVISORY PATENT EXAMINER**